

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ALEX KRISTER RAITH
AND
AYMAN MOSTAFA

Appeal No. 2005-2062
Application 09/451,208

MAILED

DEC 22 2005

U.S. PATENT AND TRADEMARK OFFICE
BOARD OF PATENT APPEALS
AND INTERFERENCES

ON BRIEF

Before RUGGIERO, BARRY, and NAPPI, Administrative Patent Judges.

RUGGIERO, Administrative Patent Judge

DECISION ON APPEAL

This is a decision on the appeal from the final rejection of claims 1-15, 17, 19-26, 30-40, 42, 43, 45, 46, 51-60, and 62-65. Claims 16, 18, 27-29, 41, 44, 47-50, and 61 have been indicated to

be allowable by the Examiner.¹ An amendment filed March 25, 2003 after final rejection was approved for entry by the Examiner.

The claimed invention relates to the decoding of signals representing variably coded information in which information coded according to a code selected from a first set of codes is received at a first station. A code is selected by partially decoding the received signal according to respective ones of the first set of codes to generate respective likelihood metrics associated with the respective set of codes. The code selection process is also biased based on prior communication between the first station and a second station that transmitted the signal. The received signal is then decoded according to the selected code to generate an estimate of the transmitted information.

Claims 1 and 12 are illustrative of the invention and read as follows:

1. A method of processing a signal representing information coded according to a code selected from a set of codes, the method comprising the steps of:

receiving the signal at a first station;

¹ Although the Examiner states (Answer, page 3) that the indication of claim 44 as being allowable was inadvertent, we make the observation that claim 44 is dependent on claim 47, which was indicated by the Examiner to be allowable.

decoding the received signal according to respective codes of the set of codes to generate respective likelihood metrics associated with respective codes of the set of codes;

selecting a code from the set of codes based on the respective likelihood metrics, wherein the selection of the code from the set of codes is biased based on a communication between the first station and a second station that transmitted the signal that occurred prior to reception of the signal at the first station; and

decoding the received signal according to the selected code to generate an estimate of the information.

12. A method of processing a signal representing a first field and a second field, wherein the first field is coded according to a code selected from a set of codes and the second field indicates the code applied to the first field, the method comprising the steps of:

receiving the signal at a first station;

processing the received signal to generate an estimate of the second field;

identifying the code applied to the first field based on a selected one of the generated estimate of the second field or a combination of the generated estimate of the second field and respective likelihood metrics associated with decoding the received signal according to respective codes of the set of codes, wherein selection is based on a confidence in the generated estimate of the second field; and

decoding the received signal according to the identified code to produce an estimate of the first field.

The Examiner relies on the following prior art:

Burshtein

6,112,325

Aug. 29, 2000
(filed Jan. 23, 1998)

Claims 12-15, 17, 19, 20, 37-40, 42, 43, 55-60, and 62 stand finally rejected under 35 U.S.C. § 102(e) as being anticipated by Burshtein. Claims 1-11, 21-26, 30-36, 45, 46, 51-54, and 63-65 stand finally rejected under 35 U.S.C. § 103(a) as being unpatentable over Burshtein.

Rather than reiterate the arguments of Appellants and the Examiner, reference is made to the Brief (filed July 17, 2003) and Answer (mailed September 29, 2003) for their respective details.

OPINION

We have carefully considered the subject matter on appeal, the rejections advanced by the Examiner, and the evidence of anticipation and obviousness relied upon by the Examiner as support for the rejections. We have, likewise, reviewed and taken into consideration, in reaching our decision, Appellants' arguments set forth in the Brief along with the Examiner's rationale in support of the rejections and arguments in rebuttal set forth in the Examiner's Answer.

It is our view, after consideration of the record before us, that the Burshtein reference does not fully meet the invention as set forth in claims 12-15, 17, 19, 20, 37-40, 42, 43, 55-60, and 62.

With respect to the Examiner's 35 U.S.C. § 103(a) rejection, we are also of the view that the evidence relied upon and the level of skill in the particular art would not have suggested to one of ordinary skill in the art the invention as recited in claims 1-11, 21-26, 30-36, 45, 46, 51-54, and 63-65. Accordingly, we reverse.

We consider first the rejection of claims 12-15, 17, 19, 20, 37-40, 42, 43, 55-60, and 62 under 35 U.S.C. § 102(e) as being anticipated by Burshtein. Anticipation is established only when a single prior art reference discloses, expressly or under the principles of inherency, each and every element of a claimed invention as well as disclosing structure which is capable of performing the recited functional limitations. RCA Corp. v. Applied Digital Data Systems, Inc., 730 F.2d 1440, 1444, 221 USPQ 385, 388 (Fed. Cir.); cert. dismissed, 468 U.S. 1228 (1984); W.L. Gore and Associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 1554, 220 USPQ 303, 313 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984).

With respect to the appealed independent claims 12, 37, and 55, the Examiner attempts to read the various limitations on the disclosure of Burshtein. In particular, the Examiner points to the description of the processing of cyclical redundancy check (CRC) codes at column 6, lines 34-61 of Burshtein.

Appellants' arguments in response assert a failure of Burshtein to disclose every limitation in independent claims 12, 37, and 55 as is required to support a rejection based on anticipation.

Appellants' assertions (Brief, pages 11 and 12) focus on the contention that, in contrast to the claimed invention, Burshtein does not disclose the processing of a signal having first and second fields in which the second field indicates or identifies the code applied to the first field based at least on a generated estimate of the second field.

After reviewing the Burshtein reference in light of the arguments of record, we are in general agreement with Appellants' position as expressed in the Briefs. We agree with Appellants that Burshtein's discussion of CRC code processing, and the Examiner's reliance thereon, has little relevance to the claimed subject matter. In our view, even if we accept the Examiner's characterization of the information bits in Burshtein as a first field, and the CRC bits as a second field, we find no basis for the Examiner's conclusion that the second field identifies the code applied to the first field.

Assuming further that even if the CRC operation in Burshtein could be construed as using a second field to identify a first

field, there is no indication from the Examiner how the remaining limitations of independent claims 12, 37, and 55 are satisfied by Burshtein. For example, while we don't necessarily disagree with the Examiner's proffered explanation (Answer, pages 6-8) of CRC code processing in relation to Burshtein, we fail to see where Burshtein discloses the generation of an estimate of a second field to identify the code of the first field based on the estimate as claimed.

In view of the above discussion, since all of the claim limitations are not present in the disclosure of Burshtein, we do not sustain the Examiner's 35 U.S.C. § 102(e) rejection of independent claims 12, 37, and 55, nor of claims 13-15, 17, 19, 20, 38-40, 42, 43, 56-60 and 62 dependent thereon.

Turning to a consideration of the Examiner's 35 U.S.C. § 103(a) rejection of independent claims 1, 21, 31, 45, 51, and 63 based on Burshtein, we do not sustain this rejection as well. The Examiner, while recognizing that Burshtein lacks a teaching or suggestion of using prior communications between first and second stations as a factor in selecting a code for decoding a transmitted signal as claimed, nevertheless suggests (final Office action, pages 4 and 5) the obviousness to the skilled artisan of reversing the operation of

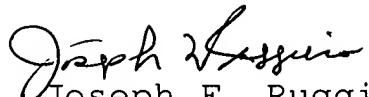
the encoders and decoders in Burshtein to thereby satisfy the claim language.

After reviewing the arguments of record from Appellants and the Examiner, we are in general agreement with Appellants' position as stated in the Brief. We simply find no basis for the Examiner's proposed modification of the Burshtein reference. Further, even assuming arguendo that one of ordinary skill were somehow motivated to make the encoder-decoder reversal in Burshtein, there is no indication from the Examiner as to how and in what manner the modification would be made to arrive at the invention as claimed. Also, while we agree with the Examiner (Answer, page 6) that both Appellants and Burshtein use a secondary factor in addition to a likelihood factor to affect code selection, the fact remains that Appellants' claimed secondary factor, i.e., prior communication between stations, is simply not taught or suggested by Burshtein.

In summary, we have not sustained either of the Examiner's rejections of the claims on appeal. Therefore, the decision of the Examiner rejecting claims 1-15, 17, 19-26, 30-40, 42, 43, 45, 46, 51-60, and 62-65 is reversed.

REVERSED

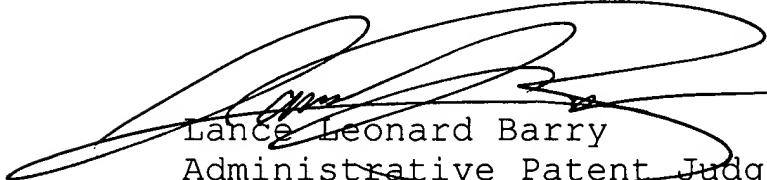
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Administrative Patent Judge

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